

COGCC Overview

Town of Timnath Public Forum

January 8, 2015



COLORADO
Oil & Gas Conservation
Commission
Department of Natural Resources

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Agenda

- WHAT and Who is the Commission?
- Colorado Oil and Gas Overview and how we regulate the oil and gas industry
- Public Involvement Opportunities



COLORADO
Oil & Gas Conservation
Commission

Department of Natural Resources

What and Who is the Commission?



The COGCC is...

- Regulatory agency created by statute in 1951 (Oil and Gas Conservation Act of 1951)
- Legislative directive then was to: “The waste of oil and gas . . . is hereby prohibited.”
- C.R.S § 34-60-101 is legal citation of current Oil and Gas Conservation Act, or “the Act”

COGCC Mission (adopted 2007)

- Foster the responsible, balanced development of oil and gas
- Protect public health, safety, and welfare, including the environment and wildlife resources
- Protect correlative rights
- Prevent waste

Commission's Authority

- The Commission acts in quasi-legislative, quasi-judicial, and executive branch capacities.
- In these capacities, the Commission:
 - Engages in rulemaking
 - Adjudicates disputes
 - Enforces violations

Who is the Commission?

- 1951: 5 members - All with oil and gas production experience.
- Pre-2007: 7 members - 5 with O&G experience
- 2007: 9 members - 3 with O&G experience
 - Executive Directors of DNR and CDPHE
 - 7 volunteer citizens appointed by Governor
 - Represent broad constituencies by statute

Who is the Commission?

- Director and professional staff carry out the day-to-day administration of the “Act” and regulation of oil and gas operations
- 99 COGCC employees (FTEs) at present
- 5 Units: Engineering, Environmental, Field Inspection, Permitting, Hearings, and Financial
- Many (~ 57) employees are field-based and are our “boots on the ground”

Spindletop Texas, 1903

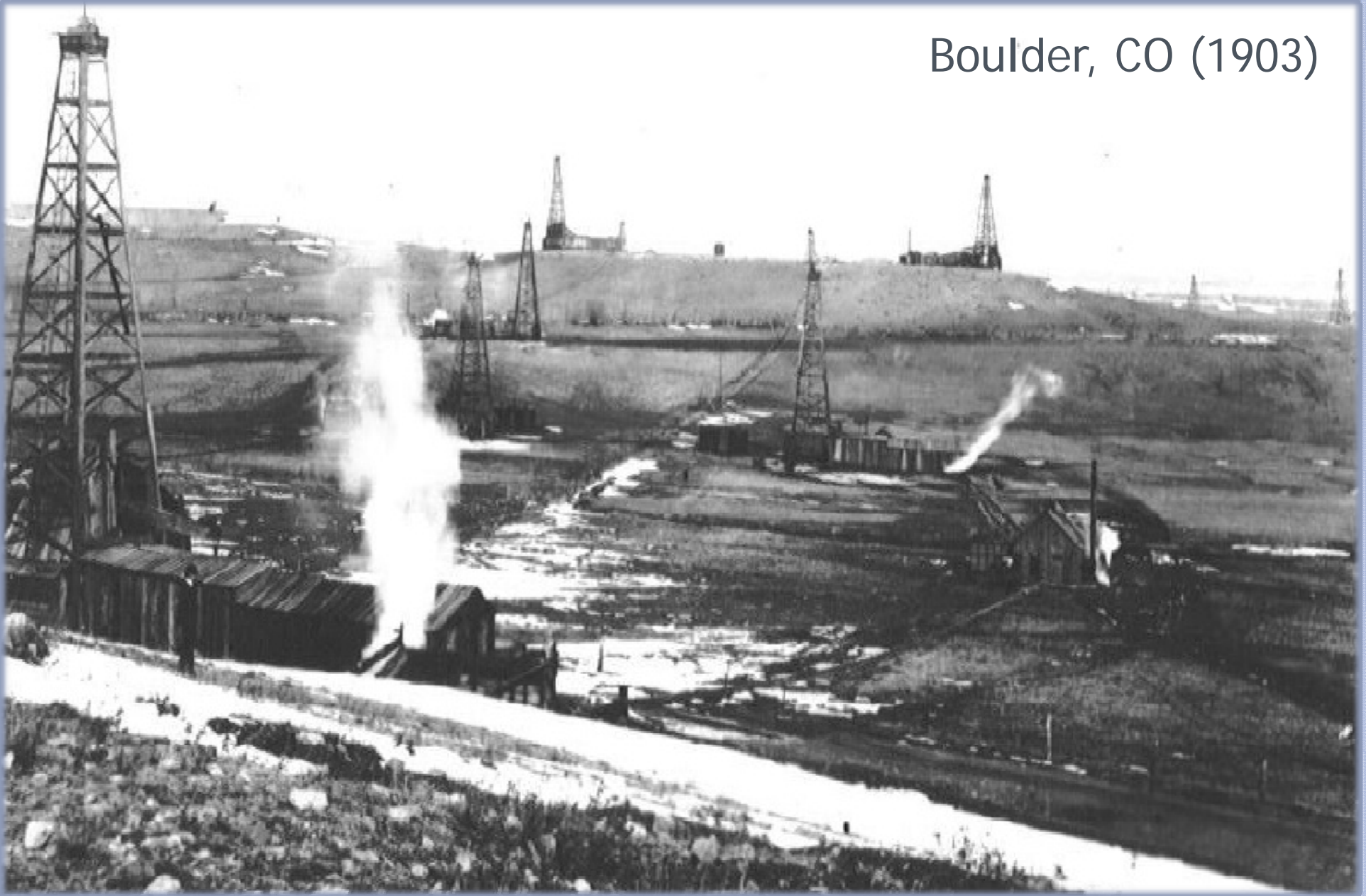


Oil and Gas in Colorado



Florence, CO (1890)

Boulder, CO (1903)



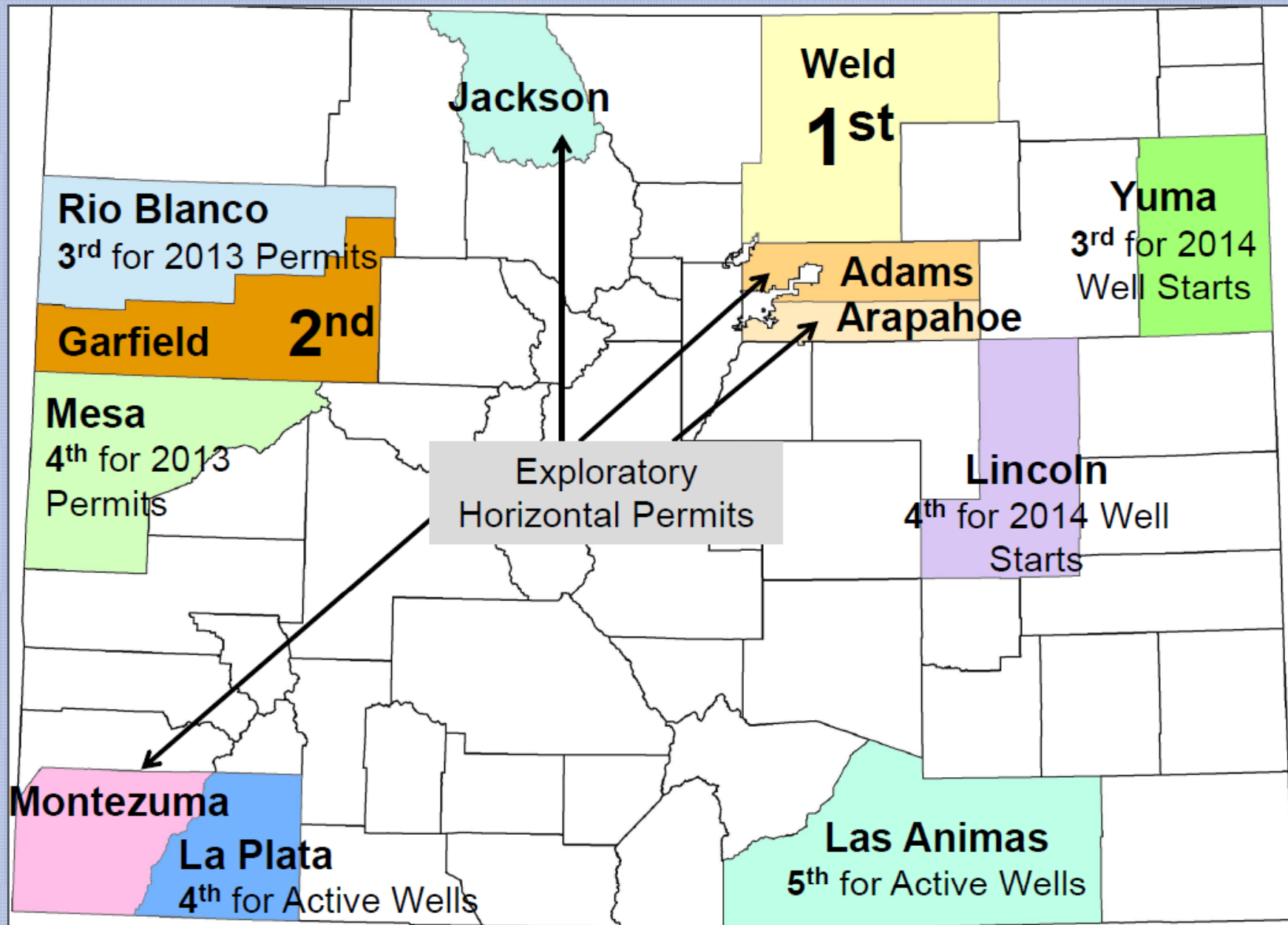
Colorado Oil & Gas Statistics

- National Rank:
 - 7th in oil production
 - 6th in natural gas production
- 64,878,078 bbls oil produced in 2013
- 52,906 active wells as of 12/15/2014
- Larimer County has 257 active wells as of 12/15/2014

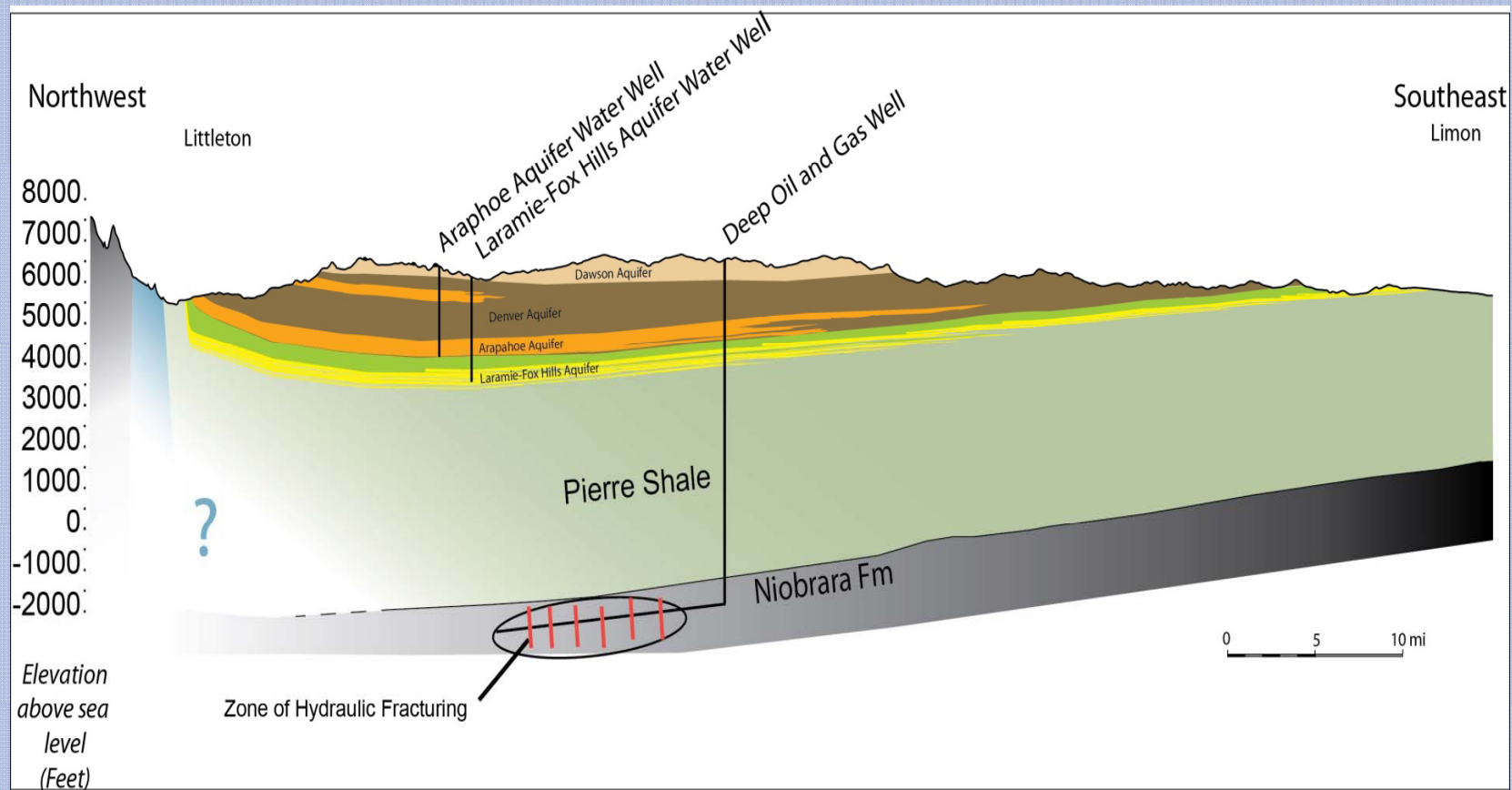


Colorado County Oil & Gas Activity

Active Wells, 2013 Permits, and 2014 Well Starts

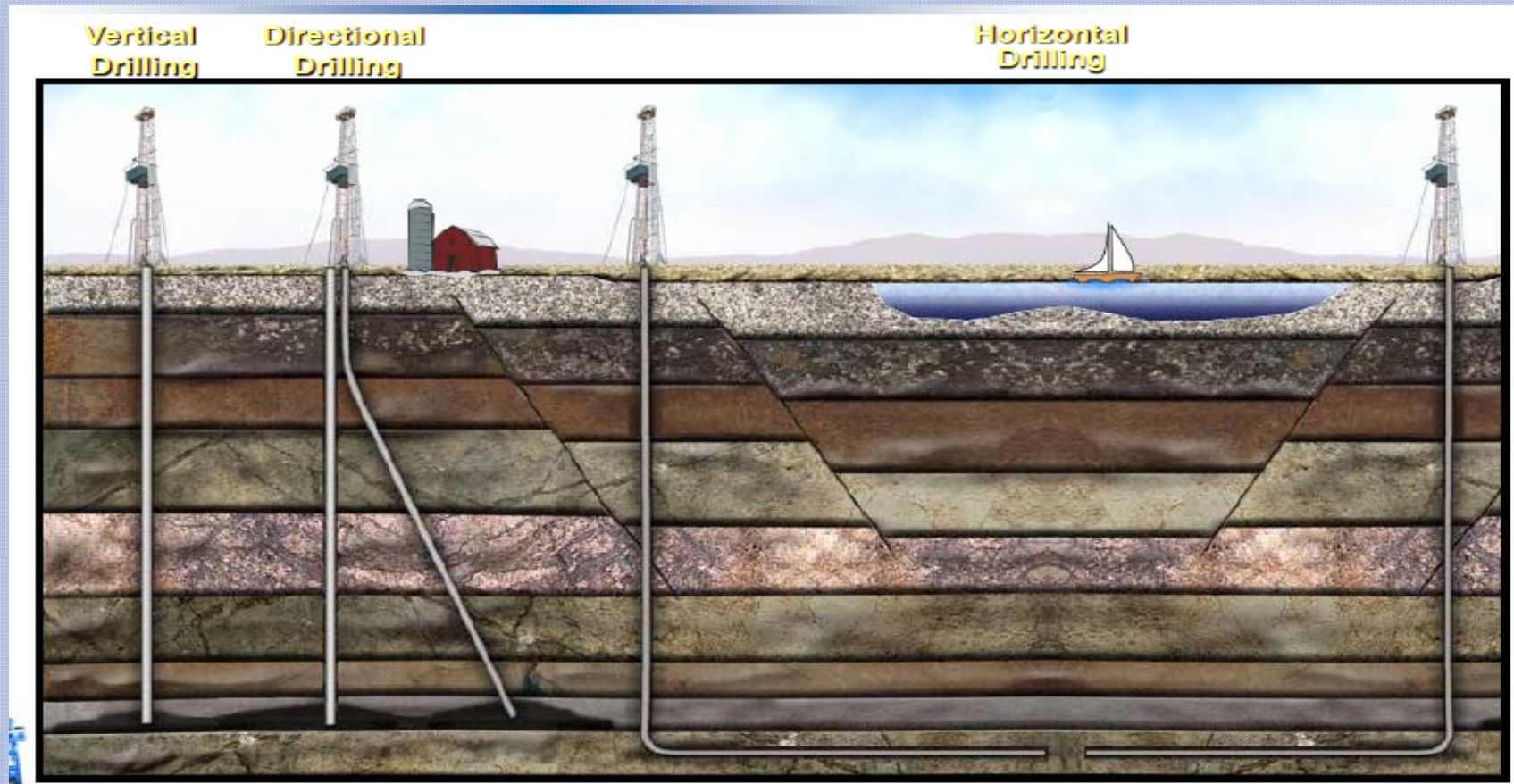


Cross Section of the Denver Basin



Modified from Colorado Geological Survey

Common Well Types



Subsurface View Multi-well Pad with Horizontal wells

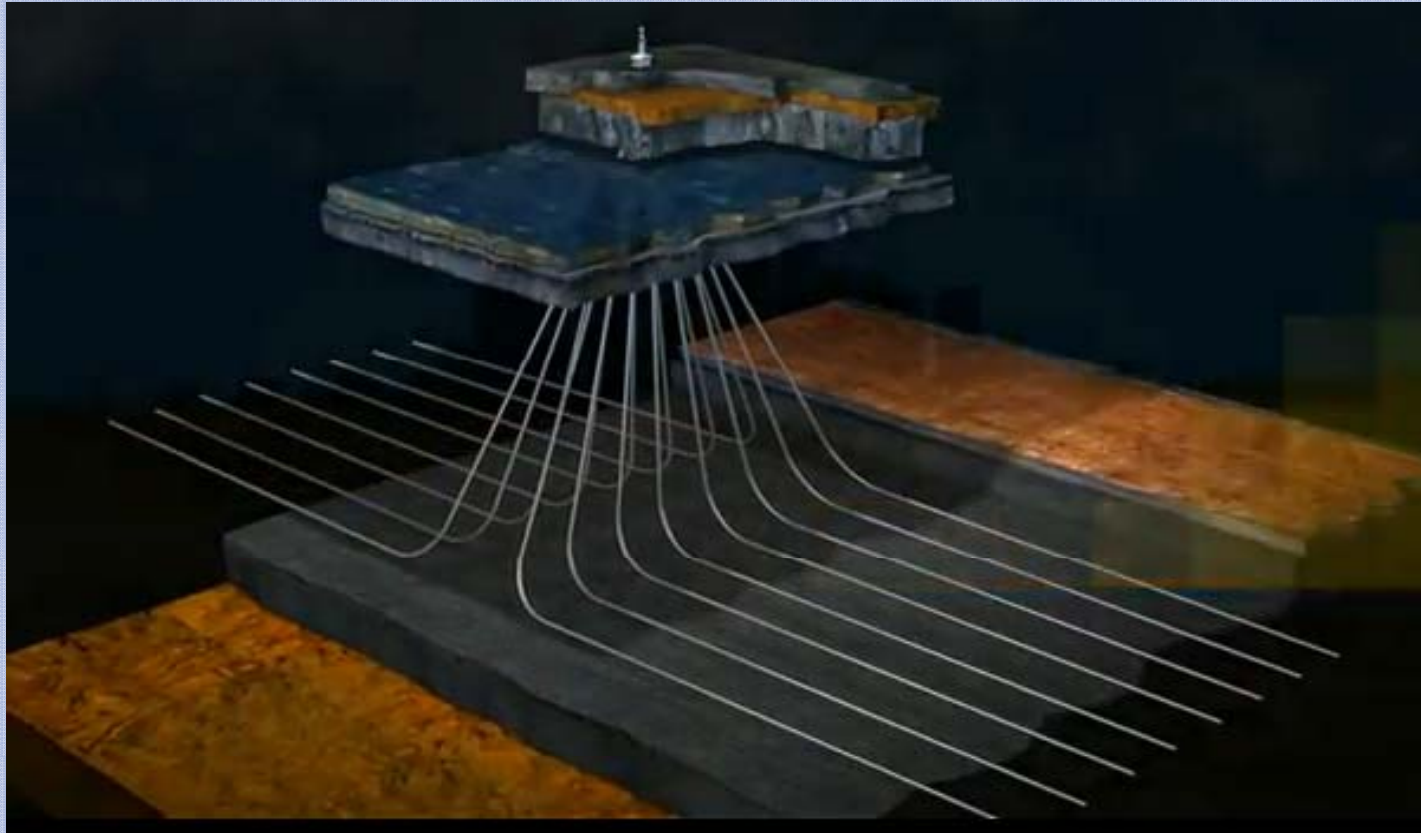


Photo from online video by Shell Oil "Life of an Onshore Well".

How does the COGCC Regulate Oil & Gas Operations?



How Does COGCC Regulate Oil & Gas Operations?

- Regulations
- Permitting
- Inspections
- Enforcement
- Collaborate with local governments

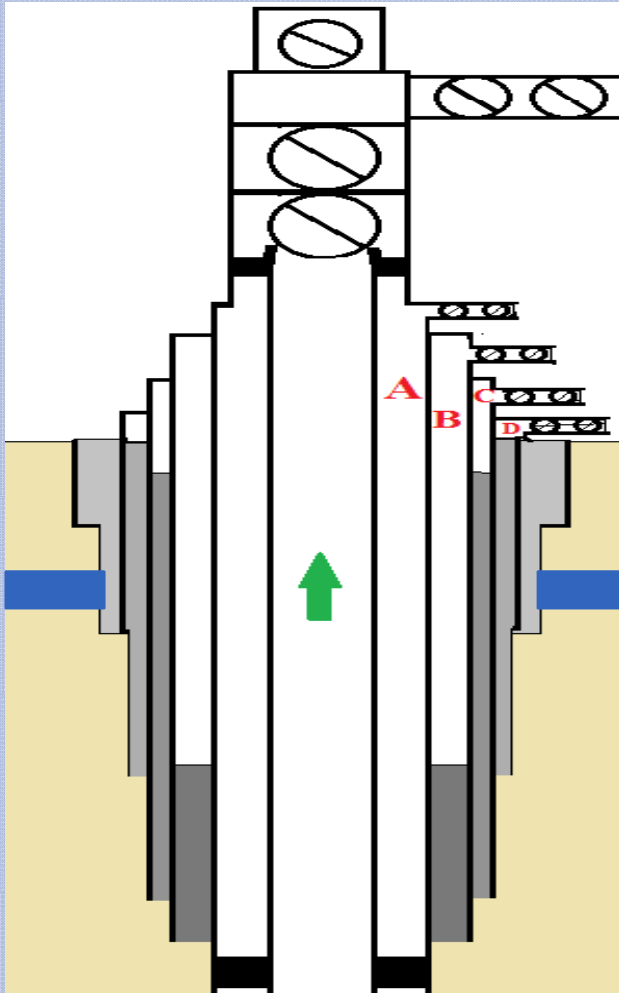
COGCC Regulations

100	Definitions	500	Hearings
200	General	600	Safety
300	Drilling, Development, Procedure, and Abandonment	700	Financial Assurance
400	Units, Enhanced Recovery, and Storage	800	Aesthetic and Noise
		900	Waste Management
		1000	Reclamation
		1100	Pipelines
		1200	Wildlife

Construction Standards and Rules to Protect Groundwater

- Engineering Design for Wells - Casing and Cement
- Testing Program for Wells - Bradenhead and Mechanical Integrity Tests
- Tank and Berm Specifications
- Groundwater Monitoring
- FracFocus Disclosure

Well Construction & Well Bore Integrity



Wells are built with **multiple barriers** of steel and concrete. More barriers are built in sensitive zones (aquifer - shown in blue).

Goal (through proper well construction, adherence to rules, inspections), is well bore integrity and isolation of production zones from freshwater zones.

For example, COGCC Rules require surface casing installed a minimum of 50 feet below fresh water zones.

Engineering Unit reviews all APDs and well completion Reports; Focus on reviewing well construction (casing and cementing plan) to isolate and protect groundwater.

Two Permit Process

Application for Permit-to-Drill

Provides information regarding the permitting of the wellbore and its construction.

- Surface & bottom hole location
- Casing
- Cementing

Oil and Gas Location Assessment

Provides an assessment of surface location.

- Area of disturbance
- Environmental review
- Hydrology
 - Groundwater
 - Surface water
- Inter-agency consultation

Inspections

- 23,500 wells inspected in 2013
- 30,675 wells inspected in 2014 (through 12/15/2014)
- COGCC inspects oil & gas operations at various stages
 - Pre-drilling site review
 - Cementing of well casing
 - Mechanical integrity testing
 - Hydraulic fracturing
 - Producing well
 - Reclamation of well pad
 - Inspection of waste injection wells
 - Inspection of public complaint

Enforcement Recent Changes

- Commission has authority to impose penalties for violations of Act, or COGCC rules, orders, or permits
- HB 14-1356 increased penalty authority from \$1K to \$15K
 - Supported by COGA
 - Rulemaking to implement HB-1356 completed on 1-5-2014

Enforcement Statistics

- 2013 issued 40 enforcement orders
 - Imposed \$1.16 million in penalties
- 2014 issued 47 enforcement orders
 - Imposed \$1.728 million in penalties
- 2014 revamped enforcement procedures to improve efficiency and transparency

Major Rulemakings Since 2008

- Comprehensive Rulemaking - 2008
- Fracture Treatment Disclosure - 2011
- Groundwater Sampling - 2012
- Setback-Notification-BMPs - 2012
- Spill Reporting - 2013
- Wildlife Habitat Maps - 2013
- Methane emissions (2014 CDPHE)
- Penalties & Enforcement - 2015

2013 Setback Rules

- 1,000 foot Buffer Zone Setback
 - Any O&G Location within 1,000' of Building Unit subject to extensive mitigation measures.
 - Notification to and communication with adjacent Building Unit owners and LGD.
- 500' Exception Zone Setback
 - No Oil and Gas Location within 500' of Building Unit, subject to specific, limited exceptions.
 - All Locations subject to Buffer Zone Setback mitigation measures, plus additional measures.

2013 Setback Rules

1,000 foot High Occupancy Building setback

- Commission approval required for O&G Location within 1,000 feet of:
 - Schools; Nursing homes; Hospitals; Correctional facilities (50-person threshold)
 - Child Care facilities - capacity of 5 people or more
- Exception Zone Setback mitigation measures apply, unless Commission determines otherwise.

Groundwater Sampling Rules

- Requires samples from all Available Water Sources (max of 4) within a ½ mile radius
 - All analytical results provided to COGCC
 - Posted to website
 - Provided to local government upon request
- Requires an initial baseline and 2 subsequent samples
 - Pre-drilling; 6-12 months after completion
 - 60-72 months after completion
- WY & NV implementing CO Rule

Collaborative State-Local Regulation

- Local Governmental Designee Program
- Operator-Local Gov. Agreement
- Public participation

Local Governmental Designee Program

- Voluntary program
- 167 local governmental entities participate
- LGDs have specific rights and opportunities to participate in COGCC permitting, hearings, and enforcement actions
- LGDs wear two (or more) hats
 - Usually part of planning staff
 - Level of participation discretionary

Public Participation

- Any person may comment on any matter before the Commission during a hearing
- Any person may submit written comments on drilling or location permits
- Any person may enlist the local government to request a hearing on a drilling permit or alleged rule violation.
- Public comment taken at various quarterly or monthly meetings around state (Garfield County EAB, GORT meeting Durango, Northwest Forum on western slope)

Public Participation

- Any person may participate as a party or a stakeholder in a rule making.
- Anyone who has been adversely affected or aggrieved by a Commission order may seek modification of that order.
- Persons affected or aggrieved by final Commission action may seek judicial review.

How to Comment on a Pending Permit Application

- ✧ Specific directions and printable documents on how to do so is on COGCC website <http://cogcc.state.co.us/> and under the [PERMITS](#) link
- ✧ eForms (web-based platform) is preferred method for comment submittal, but letter to COGCC or e-mail to dnr_dnr.cgcc@state.co.us is viable
- ✧ Must be done during finite comment period
- ✧ Comments may result in COAs added to permit

Governor's Task Force on State and Local Regulation of Oil and Gas Operations

- ✧ Charged with crafting and finding recommendations to address land use conflicts in siting oil and gas facilities
- ✧ Report due February 27, 2015
- ✧ Comment via attend meeting in person or via e-mail to ogtaskforce@state.co.us
- ✧ <http://dnr.state.co.us/ogtaskforce/Pages/home.aspx>

Filing a Complaint (as of 1-9-2015)

- ✧ New dedicated link on COGCC homepage
<http://cogcc.state.co.us/Complaints/Complaints.html>
- Recently improved process to File a formal complaint online
- Formal complaints required to be in a written format (fill out online, may remain anonymous)
- All complaints filed will be investigated and responded to by staff

Where do we go from here?

- ✧ Industry needs to continue to increase its engagement with public, including opponents to O&G development. Be open and honest.
- ✧ Opponents need to be open to engagement and have discussion engaged based on facts, not on fear. Be open and honest.
- ✧ Ensure regulations are enforced, and modified and strengthened as technology improves, data is obtained, and studies are completed.
- ✧ Change operator culture to one that exceeds (not just meets) regulatory requirements.


Where do we go from here?

- ✧ Continue to fund and conduct research and studies (Garfield County CSU study, EPA review, others)
- ✧ Continue to move to an “all of the above” energy plan, with real support from the oil and gas industry
- ✧ Continue fact-based and science-based education, with a civil and respectful debate
- ✧ Continue public outreach, expand and improve LGD program to be more inclusive

VISIT OUR WEBSITE

<http://cogcc.state.co.us/>

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Colorado Oil and Gas
Conservation Commission

A division of the Colorado Department of Natural Resources Transparency Online Project (TOP)

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January 05, 2015

PUBLIC ANNOUNCEMENTS

[Continuation of Rulemaking Hearing](#) (12/22/2014)
The Commission has scheduled the continued rulemaking hearing on Rules 522 and 523.

Encana Oil and Gas Inc. Comment Period Extended (12/17/2014)
The comment period for the Encana - Rasmussen Well Pad 19H-M268 Form 2A #400750429 and 12 associated Form 2s located in Section 19 T2N R68W has been extended by LGD request to 1/14/2015.

Encana Oil and Gas Inc. Comment Period Extended (12/17/2014)
The comment period for the Encana - Rasmussen Facilities Pad 19H-M268 Form 2A #400662720 planned to be located in Section 19 T2N R68W has been extended by LGD request to 1/14/2015.

[HOT TOPICS](#)

[Commission Rulemaking Hearing](#)
Live Audio of the January 5th Rulemaking

[Liquid & Natural Gas Pipelines Re](#)
Representatives of the pipeline industry, elected officials, and local government all overview of hydrocarbon pipeline regulation

[1412-RM-03 Rulemaking to Implement](#)
The Commission will consider additions to Commission's Rules of Practice and Procedure

THANK YOU!

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January 8, 2015



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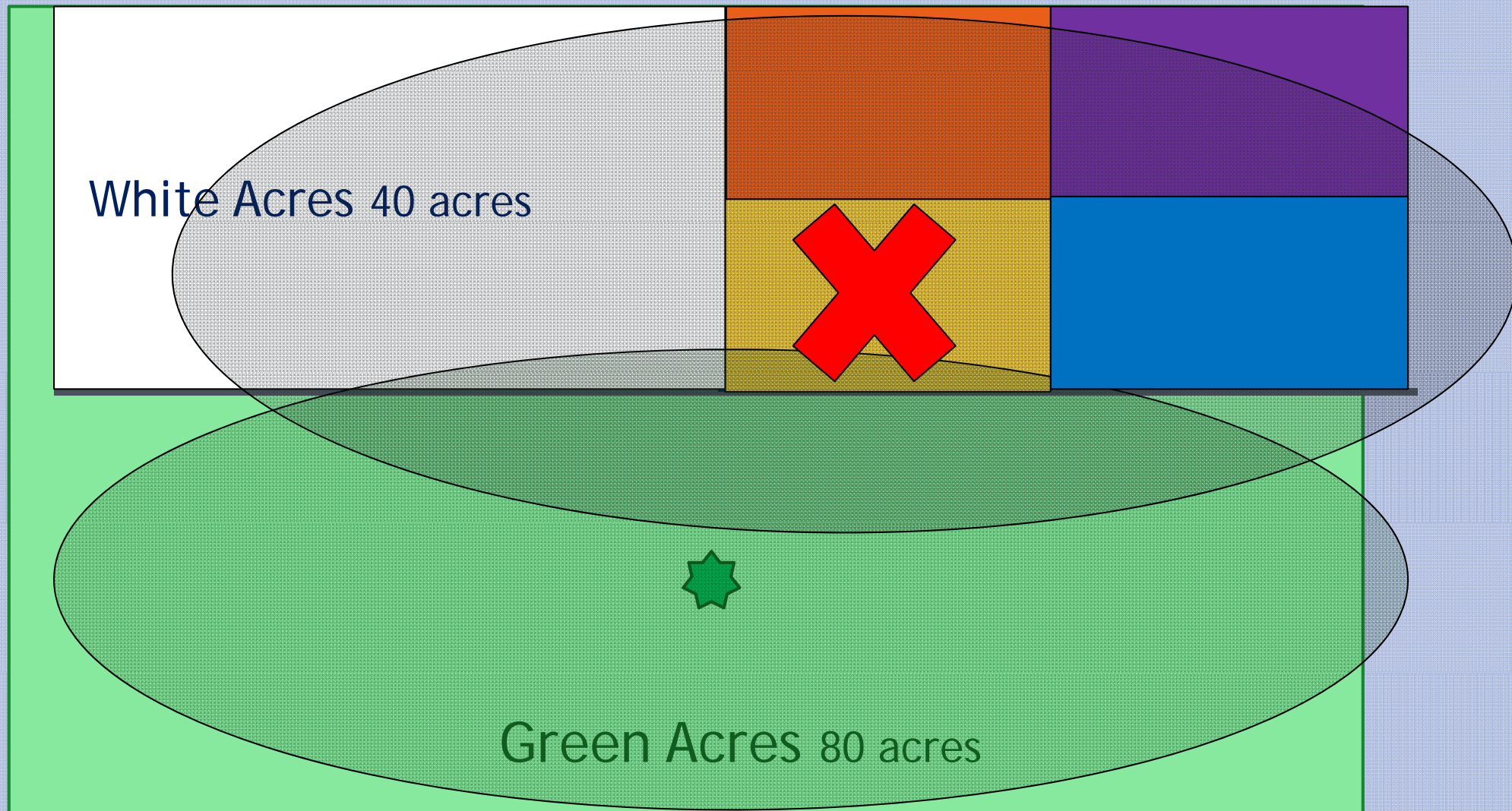
White Acres 40 acres

Black Acres 40 Acres



Green Acres 80 acres

Spacing and Pooling



Split Estates and Reasonable Accommodation

- ✧ Mineral estate may be severed from surface estate
 - Separate sticks in the bundle of property rights
 - Common occurrence in Colorado.
- ✧ CO. S. Ct.: Severed mineral rights lack value unless they can be developed.
- ✧ Mineral estate owner is entitled to use that portion of the surface estate as is **reasonably necessary** to develop the mineral interest.

Gerrity Oil and Gas Corp. v. Magness, 946 P.2d 913 (Colo. 1997).

Split Estates and Reasonable Accommodation

- ✧ Both surface and mineral estate are mutually subservient and mutually dominant with respect to the other.
- ✧ Inability of one estate to exclude the other from the surface *may create tension*.

– *Gerrity Oil and Gas Corp. v. Magness*, 946 P.2d 913 (Colo. 1997)

Recent COGCC Policies

- Horizontal Offset Well Policy
- Modular Large Volume Storage Tanks Policy
- Drill Cuttings Management Policy
- Rule 604.c(2)E.i “as far as possible”

Commenting on a Pending Permit- Click on "PERMITS"

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COGIS- Search for Drilling Permits (Form 2) and Oil & Gas Location Assessment Permits (Form 2A)

ALL PENDING PERMIT APPLICATIONS
List of pending applications includes links to eForms for Public Comments, submitted documents, and map location for each application.
Pending Applications for Permits to Drill (Form 2) for: County
Pending Applications for Location Assessment Permits (Form 2A) for: County
PERMITS APPROVED WITHIN THE LAST 12 MONTHS
List of approved permits includes links to Scout Card and File for each well and location.
Approved Drilling Permits(Form 2) for: County
Approved Location Assessment Permits (Form 2A) for: County

[HOME](#)

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COGIS - Pending Location Assessment Permits
You Requested Permits for: LARIMER County

Received Posted	Operator Name Number	Operator Contact	Contact Phone	Status/ Document #	Status Date	Type of Permit	Location Name/Number	Size of Location	Location
10/13/2014	EXTRACTION OIL & GAS LLC	Jeff Annable	(303) 928-7128	IN PROCESS 400707066	12/31/2014	New Location	Johnsons Corner 35-F Pad	8 Acres	SWNE 35 5N 68W
12/24/2014	PETERSON ENERGY OPERATING INC	Clay Duke	(720) 420-5700	ON HOLD 400719123	12/15/2014	New Location	AKAE NENE Pad #1	3 Acres	NENE 1 6N 68W
10/28/2014	GREAT WESTERN OPERATING COMPANY LLC	Callie Fiddes	(303) 398-0550	ON HOLD 400690366	10/17/2014	New Location	Pace FD Pad 30-202HC	11 Acres	SENE 25 6N 68W
12/09/2014									
09/17/2014									
10/08/2014									

Hydraulic Fracturing Information - COGCC.state.co.us

[HOME](#)

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[DATABASE](#)
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COGCC Intranet Home Page

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February 03, 2014

OGCC ANNOUNCEMENTS

KRONOS PASSWORD RESETS: CONTACT (11/20/2013) glenn.geschwind@state.co.us

OIT SELF SERVICE DESK (11/05/2013) [OIT Self Serve](#)

OIT HELP DESK (02/26/2013) [Help Desk Memo](#)

LINK TO EFORM
(INTERNAL EFORM HELP DESK) (12/15/2009) [eForm](#)

HOT TOPICS

[NOTICE OF LESSONS LEARNED WORKSHOP \(01/17/2014\)](#)
[Public Invitation to Flood Response Workshop \(01/14/2014\)](#)
Workshop to discuss "lessons learned" about floods and oil and gas operations in Colorado. Thursday, February 6, Wells Fargo Building, Hershner Room, 1700 Lincoln St, Denver, CO.

[Flood Response Information \(11/26/2013\)](#)
Information about COGCC response to flooding in Northeast Colorado.

[Spill and Release Reporting Rulemaking \(10/22/2013\)](#)
House Bill 13-1278 requires operators to report any spill or release of one barrel or more. There are proposed changes to Rule 300 Series and 900 Series to implement the legislation.

[***NOTICE TO OPERATORS*** \(10/09/2013\)](#)
Return to Service of Oil and Gas Facilities or Wells within the Flood Impact Zone.

[Wildlife Map Rulemaking \(06/14/2013\)](#)
COGCC proposal to update wildlife habitat maps

[Interim Policy For Hearings Dept. Filings \(04/18/2013\)](#)
Interim Policy For Number Of Copies Required To Be Submitted To Hearings Dept.

[Hydraulic Fracturing Information \(06/07/2011\)](#)
With the public's interest in and concern about the potential impacts of fracking on public health and the environment, the COGCC has compiled information for the public's review.



Hydraulic Fracturing Information on COGCC Website

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HF Colorado Oil and Gas Con... Suggested Sites Tips and Tools - OIT Goog... Google LINKS

HYDRAULIC FRACTURING INFORMATION

Hydraulic fracturing (aka "fracing") has been used by the natural gas and oil industry since the 1940s. In Colorado by the 1970's fracing became a routine completion technique for most wells. When properly conducted, modern fracing is a safe, sophisticated, highly engineered and controlled procedure. Because of the public's interest in and concern about the potential impacts of fracing on public health and the environment, including surface and ground water resources, the COGCC has compiled the documents and links listed below. We hope that you find this information useful in helping to understand more about fracing: what it is, why it is done, how it is regulated, and how the public and environment are protected.

DOCUMENTS	LINKS
COGCC Presentation On Hydraulic Fracturing (05/2011) A presentation on hydraulic fracturing in Colorado, with a focus on regulations, engineering review, environmental, groundwater protection, inspection and how complaints are handled by the COGCC	COGCC Rules Related to Hydraulic Fracturing
COGCC Frequently Asked Questions A list of questions compiled and answered by the COGCC staff.	FracFocus The hydraulic fracturing chemical registry website, where you can search for information about the chemicals used in the hydraulic fracturing of oil and gas wells.
COGCC Gasland Correction Document (10/29/2010) A memorandum that corrects errors in Gasland's portrayal of several Colorado incidents.	Colorado Fluids Disclosure A site provide by Halliburton listing the fluids used in Colorado during the hydraulic fracking process.
COGCC Natural Gas Drilling: Public Health and Environmental Impacts (04/12/2011) Director Neslin's testimony before the U.S. Senate Committee on Environment and Public Works & Subcommittee on Water and Wildlife regarding hydraulic fracturing	Material Data Sheets for Ohio
COGCC Response to Follow-Up Questions from the Senate Committee on the Environment and Public Works (05/17/2011) Director Neslin's written response to questions from the Senate regarding hydraulic fracturing	Chemicals Used by Hydraulic Fracturing Companies in Pennsylvania

Hydraulic Fracturing and Trade Secrets

If a vendor, service provider or operator claims a chemical and/or its concentration as a trade secret, a form (Form 41) must be submitted to the Director of the Oil and Gas Conservation Commission.

The Form 41 must include contact information for a representative should further information be promptly needed regarding the composition of the trade secret chemical claimed.

By signing the Form 41 document, the signer is legally attesting to the legitimacy of the trade secret claim.

Trade secret information must be provided promptly to the COGCC Director and health professionals upon request.

Existing provisions allow any person who believes a trade secret has been inappropriately claimed to seek redress through the Commission and through the courts.

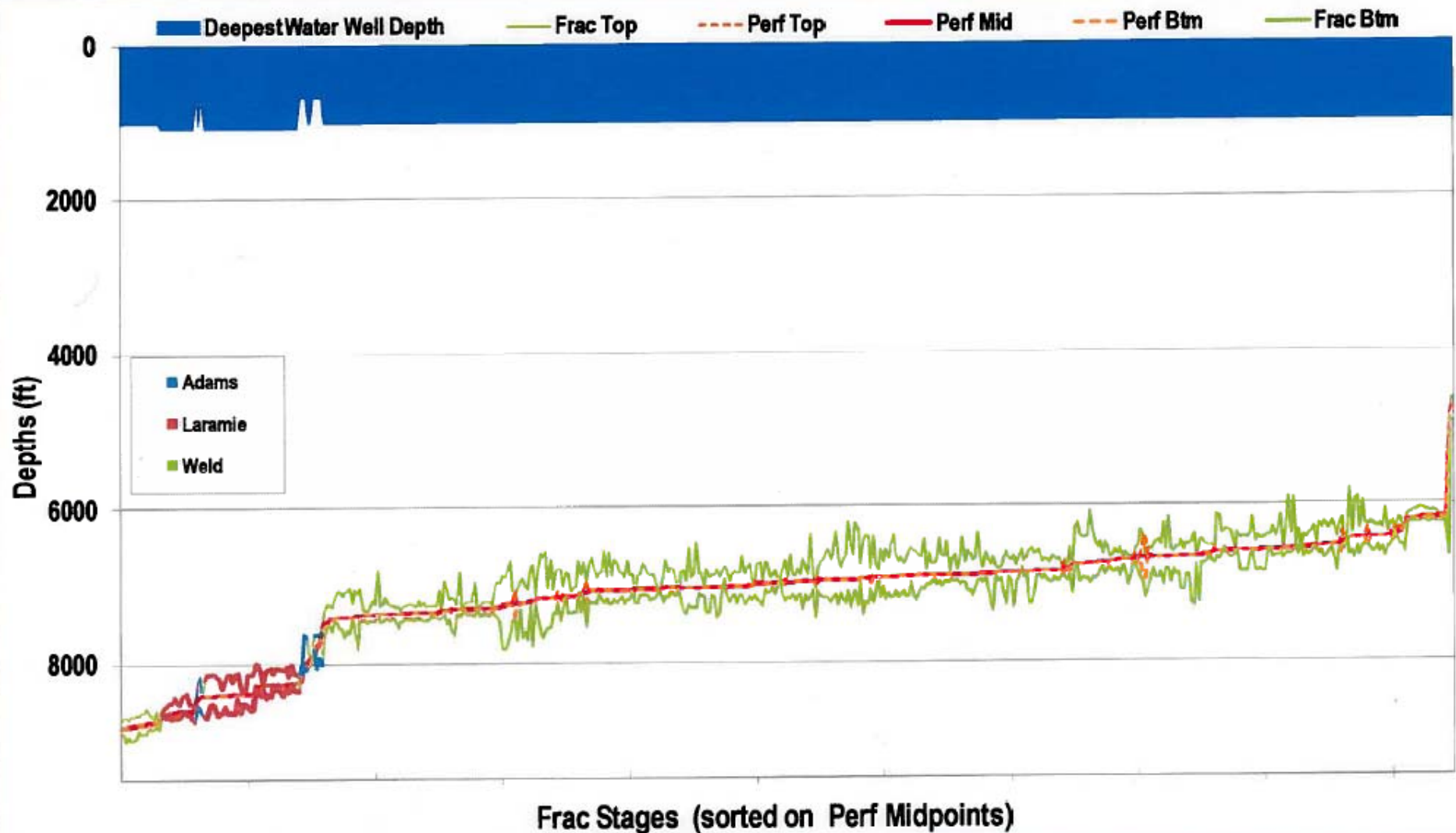
Where do the fractures go?

- ✧ They stay in the formation of interest.
- ✧ Typical fracture:
 - "Half" Length: 300' to 1500'.
 - Height: 20' to 300'.
 - Width: 0.1" - 0.3".
- ✧ Energy Force: less than 1 on Richter Scale



Mapped microseismic height for Niobrara

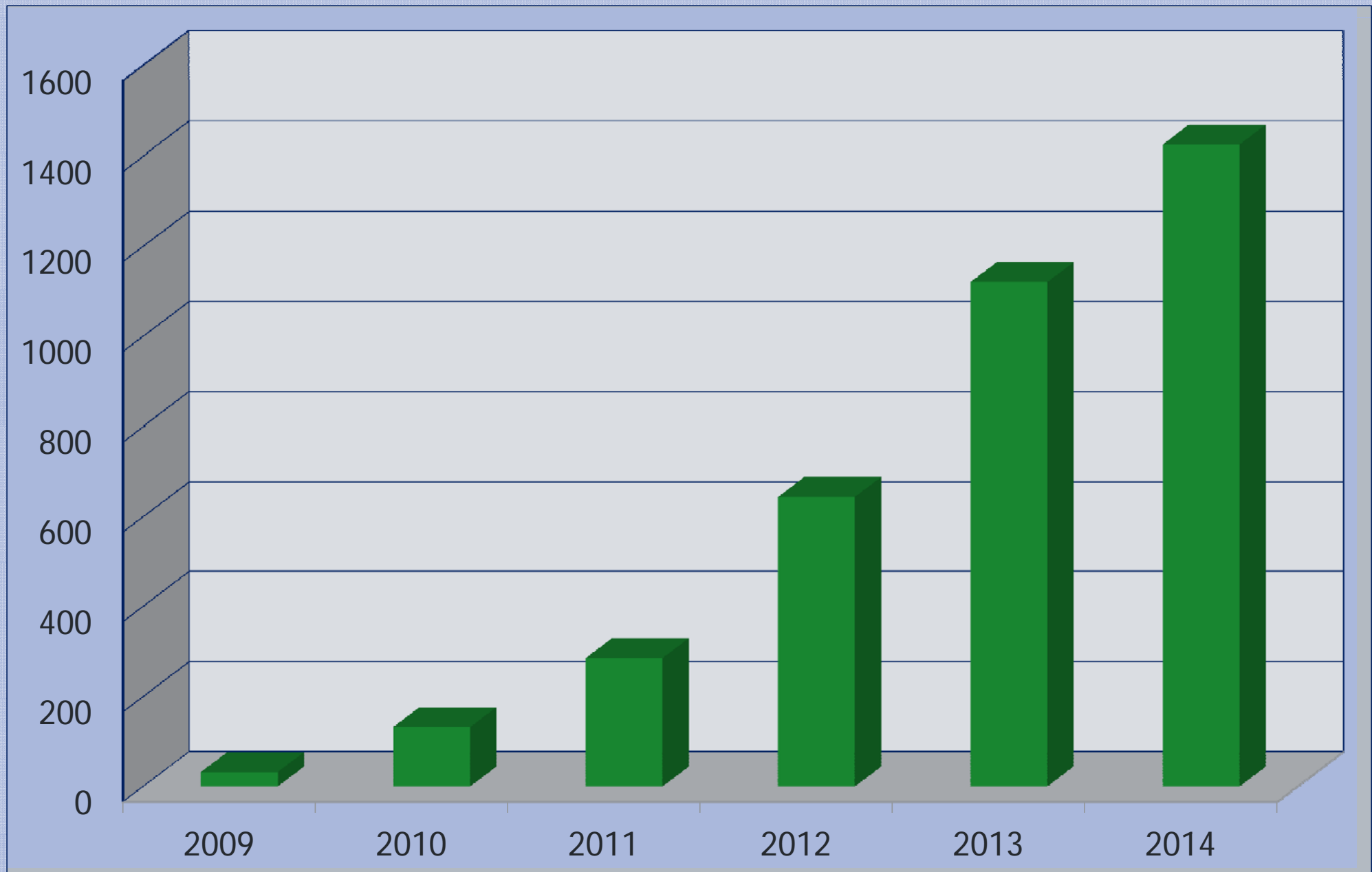
- Top: shallowest microseism; Bottom: deepest microseism
- Aquifers: USGS deepest water well levels by county



Common Uses of oil and gas

- Gasoline, jet fuel, diesel, propane
- Fuel for heating
- Plastics (cell/smart phones, toys, computers)
- Tires, asphalt, pesticides
- Clothes, skis, surfboards, paint

Horizontal Well Starts 2009-2014



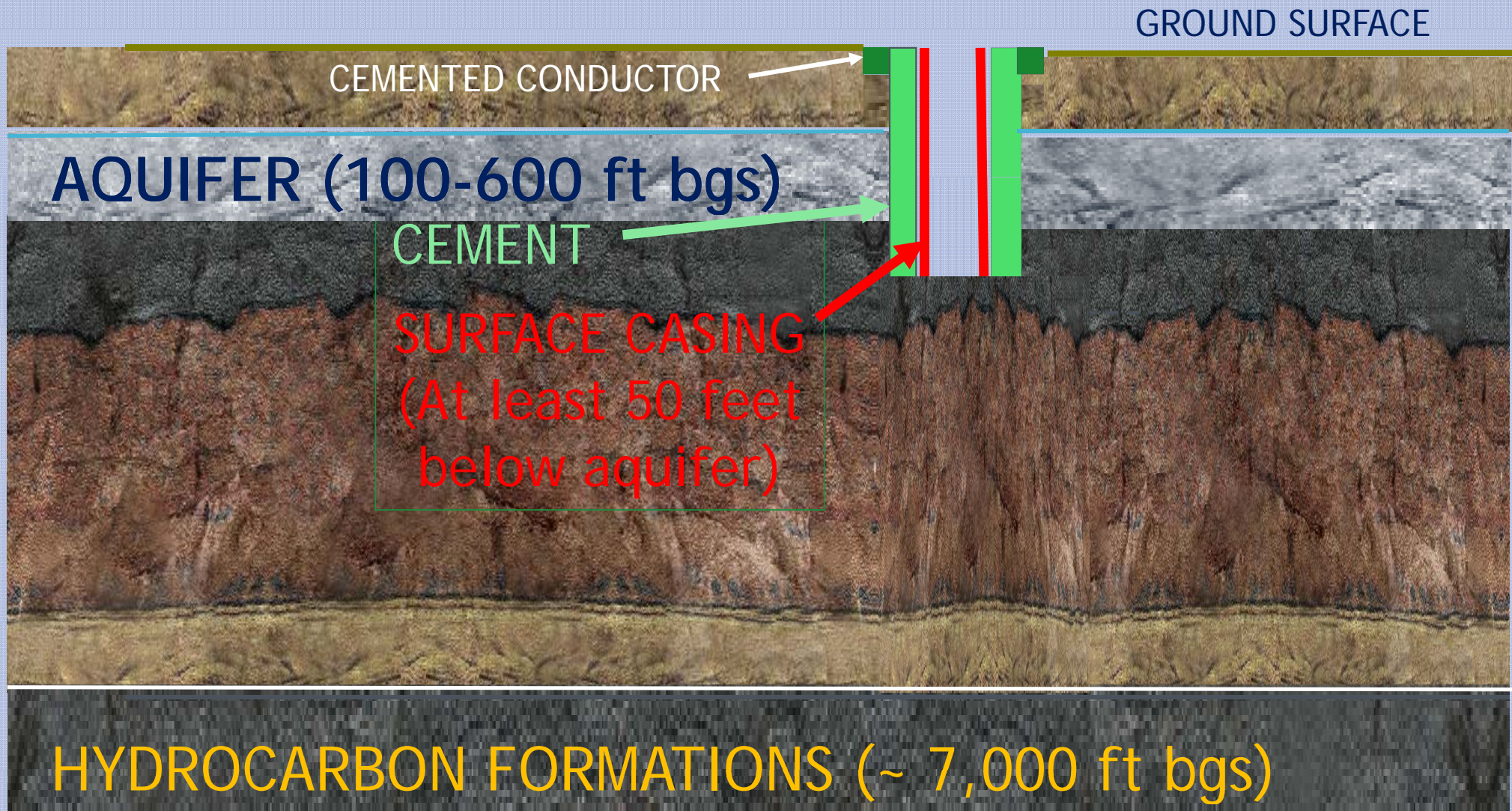
CO Oil Production 2003-2013

Year	Oil Production in Barrels	Year over Year Increase
2003	21,596,362	5%
2004	22,571,057	5%
2005	23,225,677	3%
2006	24,560,380	6%
2007	26,055,849	6%
2008	29,556,032	13%
2009	30,223,251	2%
2010	32,748,379	8%
2011	39,200,611	20%
2012	49,126,759	25%
2013	64,882,078	32%

Wellbore Diagram - Surface Casing

STEEL SURFACE CASING CEMENTED IN PLACE TO PROTECT AQUIFERS

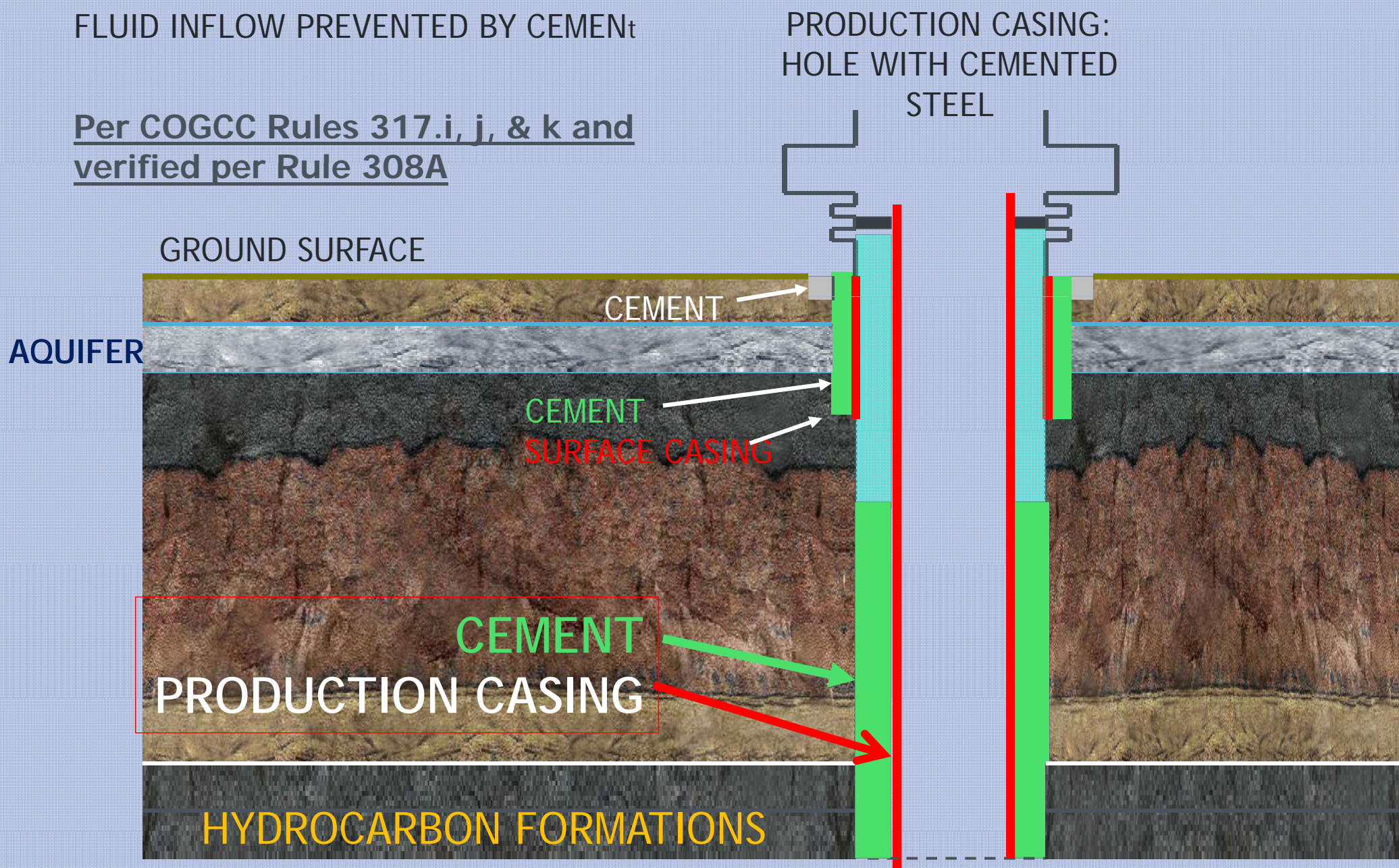
Per COGCC Rules 317.e, f, g, & h



WELL BORE DIAGRAM

PLACE & CEMENT PRODUCTION CASING
FLUID INFLOW PREVENTED BY CEMENT

Per COGCC Rules 317.i, j, & k and
verified per Rule 308A



Operator-Local Government Agreements

- Contractual; outside of local ordinance
- BMPs can go beyond COGCC rule requirements
- BMPs can be incorporated into state drilling permit and are enforceable by COGCC